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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,138	10/30/2003	Juan-Antonio Carballo	AUS920030656US1	3491
45502 7590 05/14/2007 DILLON & YUDELL LLP 8911 N. CAPITAL OF TEXAS HWY., SUITE 2110 AUSTIN, TX 78759			EXAMINER PIERRE LOUIS, ANDRE	
			ART UNIT 2123	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/698,138

Applicant(s)

CARBALLO, JUAN-ANTONIO

Examiner

Andre Pierre-Louis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed on 02/19/2007 has been received and fully considered; claims 1-22 are presented for examination.
2. Regarding the drawings' objection, the Examiner withdraws the objection in view of the amendment.
3. As per the rejection under 35 USC 101, the Examiner withdraws the rejection in view of the amendment.

Response to Arguments

4. Applicant's arguments filed 02/19/2007 have been fully considered but they are not persuasive.

4.1 Applicant argues that the combination of Goldsmith and Fan does not teach or suggest the "parameter generator" and does not disclose the "internal link model of claim 1; the Examiner respectfully disagrees and asserts relies on Fan et al. *fig.1, 2, 4a, 5, and 7; also Goldsmith*. Goldsmith teaches a system for design of high-speed communication system (*see title*), that includes a channel estimator (*section 3.6*), and means for modeling *BER* and Fan et al. teaches a system and method that includes determining on chip bit error rate of communication system (*see title*). Fan et al. system further includes a parameter generator for generating the set of parameters (*see fig.2 (225a), 4a (425a), and 5 (525a), col.7 line 27-col.8 line 64*); and substantially teaches the internal link model (*fig.1 (130)*) comprises configurable link cells/layers (*see col.7 lines 27-col.8 line 64*) and configured to receive the set of internal link parameters (*135a-b*).

4.2 As Applicant's assertion that Fan provides no teachings or suggestion that PRBS 225a is "configured to permit a user to specify a first set of parameters associated with the communication link and further configured to derive a set of internal parameter associated with communication link from the first set of parameters", the Examiner notes that the rejection of the instant claims relies of a plurality of parameter generators teaches by Fan et al. in (*see fig.2 (225a), 4a (425a), and 5 (525a), also see col.7 line 27-col.8 line 64*). The rejection below clearly shows what is relied upon in the rejection of the instant claims and a clear mapping of the cited reference to the instant claims is shown below.

4.2 While the applicant believes that the independent claims, along with the dependent claims should be found allowable, the examiner respectfully disagrees and asserts that the combined references cited teach the entire claimed invention. Applicant is further encouraged to look at the new references cited but not used shown in the conclusion section below. However, the grounds of rejections below fully support the Examiner's position in rejecting the instant claims. The Applicant is further encouraged to carefully review the reference cited but not used shown in the conclusion section of this Office Action.

Claim Objections

5. Claim 10 is objected to because of the following informalities: The term "tangible" is not defined anywhere in the specification; however, Applicant provides a description of computer executable instruction stored on a readable medium such as a disk or the like (pg.6 lines 25-30), which the Applicant might consider claiming the medium as being a recordable medium versus a tangible medium, shown in the instant claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6.0 Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan et al. (*U.S. Patent No. 7,093,172*), in view of Andrea Jo Goldsmith (*referred to herein as Goldsmith*).

6.1 In considering the independent claims 1 and 10, Goldsmith substantially teaches a system for designing a communication link for use in a data processing system, said system comprising: a parameter generator configured to permit a user to specify a first set of parameters associated with the communication link and further configured to derive a set of internal parameters associated with the communication link from the first set of parameters (*see fig.2 (225), 4a (425a), and 5 (525a), col.7 line 27-col.8 line 64*); an internal link model comprising a set of configurable link cells, wherein the internal link model is configured to receive the derived set of internal parameters and to instantiate each link cell in the set of configurable link cells based on the set of internal parameters (*fig.1 (130),also 135a-b; col.7 lines 27-col.8 line 64*); means for modeling a bit error rate (BER) of the communication link based upon the instantiated set of link cells (*see fig.4b, 6, col.19 lines 7-52*); and means for presenting at least one characteristic of the modeled communication link to the user (*see fig.3 col.17 lines 36-50*). Although Fan et al. does not clearly show the term designing communication link, he teaches a system that is configured to build a five functional layers for data packets that are to be transmitted over an optical network (*col.7 line 62-col.8 line 23*). Nevertheless, Goldsmith

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substantially teaches a design and performance for high-speed communication system (*see title*), including modeling BER (*pg. 54*), and a channel estimator (*fig. 3.10*). Goldsmith and Fan et al. are analogous art because there are from the same field of endeavor and that system and method teaches by Goldsmith is similar to that of Fan et al. Therefore, it would have been obvious to one ordinary skilled in the art at the time of the applicant's invention to combine the high-speed communication system design of Goldsmith with the system and method of Fan et al. because Goldsmith teaches the advantage of increasing spectral efficiency (*pg. 6*) and the improvement of accuracy of the state estimator (*pg. 112*). Fan et al. further teaches improvement of transmission characteristics of information, which may be transferred across a communication link (*see col. 13 lines 23-32*).

6.2 Regarding claims 2, 11, and 22, the combined teachings of Goldsmith and Fan et al. substantially teach the estimator configured to estimate the area and power consumption based on the user specified first set of parameters (*see Goldsmith fig. 3.10, pg. 44-54, 71-77*).

6.3 As per claims 3 and 12, the combined teachings of Goldsmith and Fan et al. substantially teach the means for modeling the BER includes: a channel simulator configured to receive the instantiated set of configurable link cells from the parameter generator; and a media transfer function specified by the user, wherein the media transfer function is indicative of a channel to which the instantiated set of configurable link cells is connected (*see Goldsmith pg. 44-54; also see Fan et al. fig. 1-2*).

6.4 With regards to claims 4 and 13, the combined teachings of Goldsmith and Fan et al. substantially teach the parameter generator prevents the user from directly accessing the set of internal parameters and the internal link model (*see Fan et al. fig. 2, 4a, 5, 7*).

6.5 Regarding claims 5 and 14, the combined teachings of Goldsmith and Fan et al. substantially teach the first set of parameters includes link design parameters selected from a set of parameters comprising a sampling complexity parameter, a loop bandwidth parameter, and a loop order parameter (*see Fan et al. fig.3-4, col.14 line 52-col.15 line 11; also see Goldsmith pg.44-54*).

6.6 As per claims 6 and 15, the combined teachings of Goldsmith and Fan et al. substantially teach that the set of configurable link cells in the internal link model include a sampling latch cell having a configurable sample rate and a sample memory having a configurable memory size (*see Fan et al. fig.1, 3-4, col.14 line 52-col.15 line 11; also see Goldsmith pg.44-54*).

6.7 With regards to claims 7 and 16, the combined teachings of Goldsmith and Fan et al. substantially teach that the set of configurable link cells in the internal link model further include an edge detector, a phase controller, and a phase rotator, each having at least one configurable parameter (*see Fan et al. fig.1, 3-4, col.14 line 52-col.15 line 11; also see Goldsmith pg.44-54*).

5.8 As per claims 8 and 17, the combined teachings of Goldsmith and Fan et al. substantially teach power supply voltage is a configurable parameter of the internal link model (*see Fan et al. fig.1, 3-4, col.14 line 11-col.15 line 11; also see Goldsmith pg.44-54*).

6.9 As per claims 9, 18, and 20, the combined teachings of Goldsmith and Fan et al. substantially teach that the system is configured to permit the user to specify a first operational parameter and an acceptable limit for a second parameter, and to instantiate each link cell to

obtain an optimal value for the second operational parameter constrained by the second operational parameter (*see Goldsmith pg.44-56; also see Fan et al. fig.1, 3*).

6.10 With regards to claim 19, the combined teachings of Goldsmith and Fan et al. substantially teach a method for providing a service permitting a user to define a communication link suitable for use in a data processing system, said method comprising: defining an internal model of a generic communication link, the internal model comprising a set of configurable link cells (*see Fan et al. fig.1, 3-4, col.14 line 11-col.15 line 11; also see Goldsmith pg.44-54*); enabling the user to specify a first set of parameters associated with the communication link while preventing the user from accessing the internal model (*see Fan et al. fig.1, 3-4, col.14 line 11-col.15 line 11; also see Goldsmith pg.44-54*); providing means for converting the first set of parameters to an internal set of parameters (*see Fan et al. fig.1, 3-4, col.14 line 11-col.15 line 11; also see Goldsmith pg.44-54*); and providing means for using the internal parameters to configure the internal model of the communication link (*see Fan et al. fig.1, 3-4, col.14 line 11-col.15 line 11; also see Goldsmith pg.44-54*).

6.11 As per claim 21, the combined teachings of Goldsmith and Fan et al. substantially teach the means for simulating a bit error rate of the communication link (*see Fan et al. fig.4-5, col.19 line 35-col.20 line 35; also see Goldsmith pg.44-55*).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7.1 J.L. Eisenbies teaches a (Conventional for Digital data communication link design, IBM Systems Journal 1967).

7.2 Rallapalli et al. teaches an (Emulation of a Space Based Internet Communication Link: Design and Implementation, 09/2002).

8. Claims 1-22 are rejected and Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

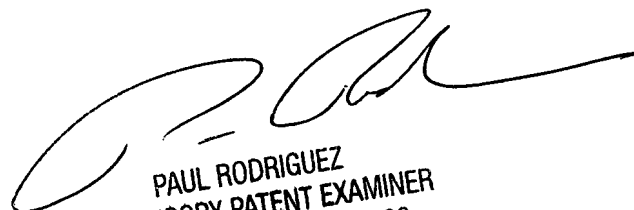
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 6, 2007

APL



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